

PROCEEDINGS
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ASTROBLEPUS PHOLETER, A NEW SPECIES OF
CAVE-DWELLING CATFISH FROM
EASTERN ECUADOR

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The discovery of an essentially unpigmented, minute-eyed species of *Astroblepus* Humboldt in a cave in eastern Ecuador is of great interest because no cavernicolous species of *Astroblepidae* has previously been reported. Padre Pedro I. Porras G. of Mision Josefina, Tena, Ecuador collected the first known specimen and sent it to the U.S. National Museum where I have been permitted to study it. Upon learning that it was a new species, Padre Porras kindly wrote to me concerning the exact locality, life colors, and habitat of this heretofore unknown catfish and returned to the cave to collect three additional specimens which he graciously forwarded to me. The figures were drawn by Mildred H. Carrington of this Laboratory. Drs. Daniel M. Cohen, J. A. F. Garrick, and W. Ralph Taylor have read the manuscript and made valuable comments.

Astroblepus pholeter, new species
(Figs. 1-2)

Diagnosis: A species of *Astroblepus* (see Gosline, 1947: 92-93) which is pinkish-white in life; lacks bands, spots, or other pigmentation; has minute eyes (5.0-6.3 times in the interorbital distance); long filaments on the tips of the leading elements of the pectoral, dorsal, and caudal fins; a long maxillary barbel which reaches to the base of the pectoral fin; an elongated barbel on the nasal flap; and a well-developed spine in the adipose fin.

Description: Interorbital distance slightly less than distance from eye to rear margin of posterior nostril; tip of adpressed pelvic fin reaching to anus or slightly beyond; prominent spine in adipose fin projecting beyond thin membrane connecting adipose to caudal peduncle; origin

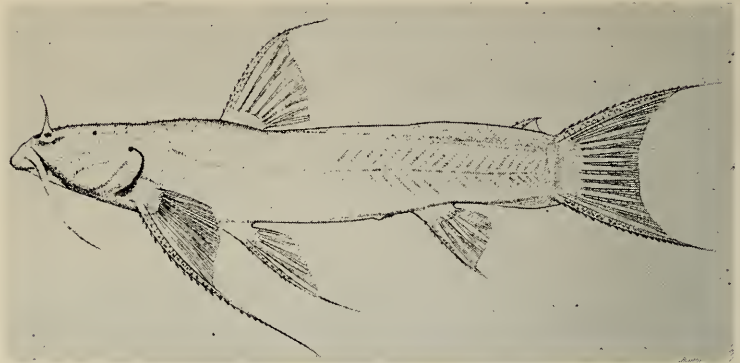


FIG. 1. Lateral view of holotype of *Astroblepus pholeter*, new species.

of pelvic fins slightly posterior to origin of dorsal fin; teeth in outer row of upper jaw unicuspid except for 2-4 on each side of midline which are deeply bicuspid; teeth in posterior rows of upper jaw bicuspid; teeth in outer row of lower jaw mostly Y-shaped bicuspid; upper surface of head and body in front of origin of dorsal fin sparsely covered with small prickles; anus located two-thirds of distance posteriorly from pelvic origin to anal origin; pectoral filament reaching to anus; dorsal rays i,6; anal i,5 or 6; pectoral i,9 (i,10 on the right side of one specimen); pelvic i,4; and caudal 5+6 branched rays plus an upper and lower elongated and unbranched ray; vertebrae 26-27 (exclusive of anterior fused vertebrae).

As is the case in adult males of all species of *Astroblepus* examined, the single known male of *A. pholeter* has an elongate urogenital papilla which probably functions as an intromittent organ. However, the urogenital papilla of this male differs in being forked for the last 3.0 mm of its 8.1-mm length. Although it appears normal in other respects, additional males will have to be examined to see if a forked urogenital papilla is a distinguishing characteristic of *A. pholeter*.

In his definition of the Astroblepinae, Gosline (1947: 92-93) wrote "gill-rakers absent or rudimentary." I find that *A. pholeter*, like 16 other species of *Astroblepus* examined, have fairly well-developed gill-rakers. Gill-rakers are absent or rudimentary on the first arch, but well-developed ones are present on the more posterior arches. *A. pholeter* lacks gill-rakers on the first arch, has two or three poorly developed rakers on the second arch, and five to seven well-developed rakers on the last three arches.

Types: The holotype is USNM 196623, a female 62 mm in standard length (Figs. 1-2) collected in a large cave in Latas, 4 km north of Archidona, Napo Province, eastern Ecuador, by Padre Pedro Porras G. in 1961. The stream issuing from this cave empties into the Misagualli

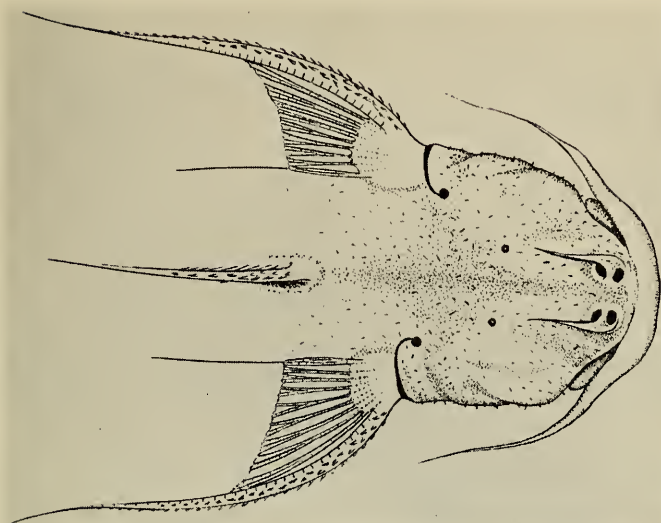


FIG. 2. Dorsal view of head of holotype of *Astroblepus pholeter*, new species.

River which drains into the Napo River, a tributary of the Amazon. Paratypes from the same locality are USNM 196671, a male 64 mm SL and a female 66 mm SL, and Chicago Natural History Museum 63855, a female 57 mm SL, all taken on 28 January 1962 by Padre Porras.

Etymology: The Greek name *pholeter* means "one who lurks in holes," in reference to the cavernicolous habits of this species.

Comparisons: *Astroblepus pholeter* is very different from all other known species of *Astroblepus*. It appears to be the least pigmented species in the genus. Its eyes are much smaller than in most of the other species. Its pectoral filament, nasal barbel, and maxillary barbel are all more elongate than those in any of the other 31 forms in the key to the *Astroblepus* of northern South America presented by Schultz (1944: 278–282). The adipose spine is larger than in any of the species (at least 16) represented in the National Museum collection. *A. pholeter* differs strongly from the types of 13 species of *Astroblepus* in the collections of the U.S. National Museum and the Chicago Natural History Museum. It superficially resembles *A. longifilis* (Steindachner) in having long filaments on the dorsal and anal fins, long pelvic fins, and a barbel on the nasal flap. However, it differs markedly in its smaller eyes, lack of pigment, longer nasal barbel, longer pectoral filament, well-developed adipose spine, and lack of an adipose ridge extending from the posterior end of the dorsal to the base of the caudal fin.

Habitat and habits: Padre Porras has informed me that he has col-

lected *A. pholeter* only in the region of perpetual darkness in the cave, 300 m to 2 km from its mouth. He characterizes the waters of the stream as notably calcareous. The temperature was 15°C. These catfish hide in holes in rocks and are very timid and difficult to capture. They are usually found in the proximity of detritus which has been washed down into the cave or near bat guano which contains large numbers of invertebrate larvae. The stomach of the male paratype contained three specimens of mayfly nymphs (Ephemeroidea). R. D. Burks of the U.S. National Museum has identified them as the genus *Euthyplocia* Eaton (specimens deposited in the USNM). A few broken pieces of *Euthyplocia* tusk were found in the stomach of one of the female paratypes. A specimen of a normally pigmented species of characin (*Piabucina* Valenciennes, determined and now under study by James E. Böhlke, Academy of Natural Sciences, Philadelphia) plus several crustaceans were also taken in the cave with *A. pholeter*.

LITERATURE CITED

- Gosline, William A. 1947. Contributions to the classification of the loricariid catfishes. *Arq. Mus. Nac. Rio de Janeiro*, 41: 79-144.
- Schultz, Leonard P. 1944. The catfishes of Venezuela, with descriptions of thirty-eight new forms. *Proc. U.S. Nat. Mus.*, 94: 173-338.